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X. EFFECTS

OF LIGHTNING ON SEVERAL PERSONS IN THE HOUSE OF SAMUEL CAREY ESQ. OF CHELSEA, AUGUST 2, 1799 ;

In a letter to the Hon. John Davis, Esq. Recording Secretary of the American Academy of Arts and Sciences.

BY JOHN LATHROP, D. D. F. A. A.



THE morning was clear, the air moving gently from the southwest, the thermometer at 75°. About 11 A. M. a thunder cloud appeared in the west, stretching, as it rose, to the north and south. Between 12 and 1 the cloud separated. One division passed over Brooklyn, Roxbury, and Dorchester, towards the sea ; but the wind, shifting south, brought it over Boston with heavy thunder, rain, and hail.

The other division of the cloud was carried by the southwest wind over Cambridge, Medford, Malden, and Lynn, approaching the sea in that direction. But the wind in that region, shifting suddenly to the northeast, turned the cloud towards Chelsea, discharging a plentiful shower, with repeated flashes of lightning.

Mr. Carey, perceiving the approaching storm, called his labourers from the field before the rain began. Three of his men went into a cellar, under the northwest part of his house, and were employed in removing a quantity of potatoes, which had lain in an arch through the winter. While thus occupied, an explosion took place, which forced one of the men forward to the ground, where he lay apparently dead. The other two were forced in opposite directions ; one against the wall, and the other against a board partition.

Mr. Carey, Mrs. Carey, one of their daughters, and a domestic or two, were standing in the room directly over the cellar, where the explosion took place. Mr. Carey was forced backward, to the floor; Mrs. Carey was pressed down in an opposite direction, experiencing a severe stroke on her feet; her shoes at the same time were forced off, and driven to the other side of the room. Miss Carey experienced the same kind of stroke, but less severe. One of her shoes was driven off as she fell upon the floor. Mrs. Carey, supposing her husband was killed, exclaimed, "O, my husband!" And attempting to rise, exclaimed, "O, my feet!" At this moment the two men, who had been forced, the one against the wall, and the other against the partition in the cellar, came up and said Mr. Cheever, the man, who had fallen on his face, was dead. Mr. Carey ordered him brought up, and laid on a bed, where proper means were used to excite vital energy. There were for some time hopeful appearances of recovery. After the operation of an emetic and bleeding, the hopeful appearances vanished, and the next morning he died.

A few days after the storm I visited Mr. Carey, and from his account, as well as by examining the spot, endeavoured to ascertain the direction of the charge. It is to be observed, Mr. Cary's house stands on a gravelly spot of ground, with a high hill on the north, and flat ground, extending to the sea, on the south. About twenty seven years ago an iron rod, of sufficient thickness and well pointed, was fixed to the southwest chimney, and, passing down the end, entered the ground near the place in the cellar, where the men received the shock. No trace of the lightning could be found, except a mark on the side of a cedar tub, like that of burned gun powder, and a few pieces of stone, which appeared to have been forced from the wall, near the bottom. Had there been a breach in the wall near the foot

of the conductor, it would be reasonable to suppose, the charge came down the rod, and, not finding moist ground, exploded, and produced the above related effects. But the wall near the foot of the rod had no breach. The stones were forced out on the northerly side of the wall ; the men being nearly between the place of the breach and the place, where the rod enters the ground.

In this case the probability is, that a portion of earth in the neighbourhood was *positive*. When the cloud from the northeast came to the striking distance, the electric matter, which had collected in great force under the dry, gravelly stratum, burst forth. A part of the charge, or whole of it perhaps, entered the cellar on the northerly side, forcing out the stones and affecting the men, as above related. The charge then passed from the cellar by the best conducting substances it could find, in its way to the cloud. The violent concussion of the air, by the explosion in the cellar, might be sufficient to fling Mr. Carey and Mrs. Carey on the floor, and occasion the painful sensation, which they and their daughter experienced in their feet, although the charge might have taken the iron rod, which was not more than three or four feet from the place, where the men were at work, or have passed out at the cellar door.

Mr. Carey however fully believes the fire was from the cloud, and exploded in the cellar ; where he thinks it was aided by inflammable vapour. That the discharge was from the cloud, he says was evident to people, who saw it, and particularly to one of his sons, who was looking out at a northeast upper chamber window. But I would query, whether the motion of lightning be not too quick for any eye to discover its direction, whether from the cloud, or the earth. Although the stream generally, if not always, appears to be from the cloud, have we not reason to think there is an optical deception ?

But if the discharge in this case *was* from the cloud, and entered the earth not far from the house, not meeting with good conducting matter, there might be what is called the *returning stroke*. The explosion, which on this supposition must have taken place, when the charge left the bad conducting matter, and sought a stratum of cloud, or a portion of earth in a negative state, might have produced all the above effects. I mean however to relate facts, and leave it with others, who have had more leisure to acquaint themselves with the laws of electricity, to draw conclusions.

With great respect

I am, Sir,

your most humble servant,

JOHN LATHROP.

Hon. JOHN DAVIS, Esq.